

REMARKS

The claims now in the case are claims 1, 3, 4 and 5. Claim 1 has been amended to limit the claims to an alloy material of $\text{AlMgB}_{14}\text{X}$. Claims 3, 4 and 5 have also been amended. Claim 2 has been cancelled. The claims now relate to the preferred composition and also relate to the primary objective of the invention (see page 2 of the "specification").

The limitation of the claims to the preferred composition distinguishes away the compositions of the prior art which are neither directed to the same thing (AlMgB_x) nor make obvious these alloys. In view of the limitation of the claims, it is submitted that claims 1 and 3-5 are now in condition for allowance.

In particular, the Co-Mn solid solution binder discussed in the current invention is not claimed singly as a novel binder, but rather in combination with a hard material, the AlMgB_{14} (BAM). The Examiner cites several examples of binders containing Co and Mn and says of particular relevance to the current invention is the Saitoh et al. patent (4,990,410) which discusses a hard phase and a Co binder containing 50% by volume from a list of metals including Mn. It is unclear from this patent if the binder additive can be a mixture of Co and multiple metals listed. Moreover BAM is not listed.

It is believed the basis for a rejection based on the Lindholm patent (4,497,660) is weak, wherein, according to claim 1, the Ni based binder consists of at least 8 elements, one of which is Co and another of which is Mn. The binder composition is distinctly different from what is presently claimed, which can have a significant impact on the properties of the hard phase. In the case of the boride, Ni would not be suitable as a binder because of an adverse high temperature chemical reaction. The fact that two of the eight minor elements referred to in the patent's binder composition happen to be Co and Mn is irrelevant; the Examiner appears to be cherry picking

two elements and claiming this as identical or obvious because those elements are present in the current claims.

The Yamazaki et al. patent (6,030,429) is also less strong in that the claimed binder is Ni based with Mn additive.

The Kear et al. patent (6,214,079 B1) also discloses a composite with a binder phase which can consist of Co, Mn, Ni, Cr, Fe, and mixtures thereof (claim 2). It is not relevant to amended claim 1. The Co-Mn binder as used in claim 1 is a solid solution, which is completely different from a mechanical mixture as Kear. A solid solution is a single phase entity, in which the unique and distinct characteristics of each constitute are no longer observable. The resulting entity may possess characteristics and properties different from those of the constituents. While this patent might at first glance appear to offer a case against the non-amended claims it is of little relevance to amend claim 1 and its limitations.

Allowance is requested for the current claims of the scope limited to BAM (AlMgB14X) with the cobalt-manganese binder.

The Applicants appreciate the acknowledgement of the suggested format rewrite for claims 3, 4 and 5. The Examiner's suggestion has been accepted.

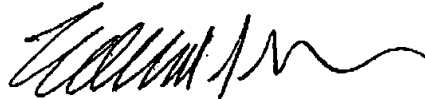
Also, it is observed that in the Restriction Requirement of July 19, 2004, the Examiner indicated that the Oath/Declaration was deficient for not identifying the provisional application which priority is based on. The Applicants respectfully submit that this is not a requirement of either 37 C.F.R. § 1.67(a), MPEP § 602.01 or MPEP § 602.02.

This is a request under the provision of 37 CFR § 1.136(a) to extend the period for filing a response in the above-identified application for one month from October 19, 2004 to November 19, 2004. Applicant is a small entity; therefore, please charge Deposit Account number 26-0084

in the amount of \$55.00 for one month to cover the cost of the extension. Any deficiency or overpayment should be charged or credited to Deposit Account 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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